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Livelihood Risk from HIV in Semi-Arid Tropics of Rural Andhra Pradesh

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Abstract

This paper discusses the livelihood dynamics in the fragile landscape of the semi-arid tropics (SAT) of Andhra Pradesh. SAT is home to the poorest of the poor who live in conditions of persistent drought, subsistence agriculture and poor access to markets. This paper is a case study focusing particularly on labour migration, its role in influencing the health risk behaviour of migrants and in the spread of the HIV epidemic among SAT rural households. The most vulnerable population in these drought-prone regions are the migrant labourers, and their vulnerability is influenced by three major factors—the vulnerability and unstable productivity in the degraded and marginal landscape, the caste system that has traditionally kept them backward and vulnerable, and experiences in the external .../.

Keywords: labour migration, HIV risk behaviour, agriculture, health, semi-arid tropics

JEL classification: I19, O5, Q19

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environment to which they migrate. This study—based on a theoretical framework, whereby livelihood risks lead to health risks, particularly HIV infection—outlines the process that causes a further deterioration of the household and the occurrence of cyclical health risk. The paper calls for a multisectoral approach to tackle the issue of migrant vulnerability, and for interventions with a more migrant-need sensitive approach.

Author notes

This study is part of a doctoral dissertation study by B. Valentine Joseph Gandhi, aimed at understanding the livelihood insecurities in rural Andhra Pradesh and its impact on farm and labour households. This is done in collaboration with the Indian Institute of Technology (IIT), Mumbai and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

Acronyms

Given at the end of the document.

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1 Introduction

In life, the only certainty is death. The uncertainty in this is only when and how it occurs. Human beings have always strived to delay its occurrence and to improve the ways in which they live by adopting different livelihood options or strategies. These often involve risk. The risks can be natural or human made, some within our control and some not. The success or failures of these mechanisms largely depend on social, cultural, economic and even natural factors. The context in which this study is done is the onset of the HIV/AIDS epidemic in an already fragile natural environment of the semi arid-tropics, where the people are predominantly dependent on agriculture for their livelihoods.

2 The semi-arid tropics of India

India's semi-arid tropics (SAT), like most regions in the developing world, are affected by low productivity of rainfed agriculture, changing globalized environment, scarcity of water and degradation of productive resources (land and biodiversity). It is also characterized by incomplete insurance markets, fragmented rural financial markets, and a rudimentary or non-existent future price market. This leads to production risks and a heavy toll on the welfare of the people of SAT (Walker and Ryan 1990). The semi-arid tropics are plagued by uncertain rainfall, on which agricultural production is largely dependent, infertile soils, poor infrastructure, extreme poverty, rapid population growth and high risks. Natural resource-base degradation, poor infrastructure and changes in demand and production patterns aggravate the already-high levels of risk. Despite numerous determined efforts, poverty and hunger persist (Rao et al. 2005). The SAT regions have yet to benefit from the agricultural transformation process of the green revolution. Given the complexity of the problems and the enormity of the task, more innovative and effective approaches are urgently needed, especially in targeting the poor sectors. It is important to recognize that the poor have developed unique coping-strategies to secure their livelihoods. These vary from household to household, and depend on factors such as socioeconomic status, education and local knowledge, ethnicity and the life-cycle phase of the household (Walker and Ryan 1990). In terms of livelihood risks, people adapt a set of mechanisms to cope with these risks, with migration being the major alternative, as it is available to people at all income levels (Bantilan and Anupama 2002).

2.1 HIV/AIDS in India's SAT

South Asia is home to the second largest number of HIV/AIDS-infected people and has one of the fastest infection rates in the world. HIV prevalence rates are still rather low, but the huge population of the region translates these into large numbers. India accounted for half a million new infections in 2003. All over South Asia there are concentrated epidemics among vulnerable groups, closing fast the window of opportunity that exists for its prevention. Globally, India ranks the second in terms of the percentage of infections and the first in absolute levels. The National AIDS Control Organization of India's sentinel surveillance has shown that the high prevalent zones of HIV are in the states of Andhra Pradesh, Tamil Nadu, Maharashtra and Karnataka—the heartland of the semi-arid tropics. Among these, Andhra Pradesh has the highest prevalence of HIV, with 2 per cent of the population infected (NIHFW and NACO

2006: 12). The epidemiological surveillance estimates that on a national level, the infection rate in the rural areas is 57 per cent, or 5.2 million people, representing 0.91 per cent of India's population. AIDS statistics may be a poor indication of the severity of the epidemic, as in many cases, the patient will die without being diagnosed with HIV, and with the cause of death attributed to an opportunistic infection, such as tuberculosis.

2.2 Migration and HIV/AIDS

As the epidemic spreads, the link between migration and HIV is emerging stronger than ever before. A recent UNDP (2005) study in partnership with PLWHA (people living with HIV/AIDS) groups in the Asia Pacific region shows that nearly 67 per cent of the respondents said that migration was the main factor leading to their HIV-vulnerability and that better access to information and services could have helped to protect them. Studies on South Africa have documented migration as an independent individual risk factor for acquiring HIV in a wide range of settings (Boerma et al. 2002). While there are no nationally representative datasets on seasonal migration and other kinds of short-term mobility, rough estimates put the number of seasonal workers in India at roughly 30 million (Deshingkar 2006). This, however, is likely to be a gross underestimate. ILO, for instance, estimates that there are up to 50 million males working in brick kilns across India. If their female partners (workers are often recruited in couples) are included, the number doubles. There are many other important sectors and subsectors (construction, stone quarries, diamond polishing, salt panning, rickshaw pulling, restaurants/cafes, road construction, crop transplantation and harvesting, plantations and prawn processing) that attract large numbers of transitory workers.

Similar patterns are also seen across the Asian countries with high growth rates, marked regional inequalities and limited prospects for diversification in rural areas. Permanent rural-urban migration has also increased but the recent trend definitely indicates an increase in seasonal migration from the marginal areas (semi-arid, drought prone, degraded forest areas, etc.) to the 'hot spots' of high productivity (Deshingkar 2006).

According to UNAIDS (2001), 'being mobile in and of itself is not a risk factor for HIV infection. It is the situations encountered and the behaviours possibly engaged in during mobility or migration that increase vulnerability and risk regarding HIV/AIDS'. Living and working away from home and apart from one's regular sexual partner as well as the uprooting and the movement of so many migrant men and women in their primary, sexually active ages, have undoubtedly created conditions that are conducive to sexual promiscuity and commercial sex. Gelmon et al. (2006) say that migration does not necessarily change an individual's sexual behaviour, but leads them to take their established sexual behaviour to areas where there is a higher prevalence of HIV. But for some individuals, however, migration does change their sexual behaviour. Long working hours, isolation from their family and movement between different locations may increase the likelihood of casual relationships, which in turn increase the risk of HIV transmission. Cultural and language barriers can also make it harder for workers to access information and sexual health services when they are away from their home communities.

2.3 Impact of HIV in rural households

The consequences of HIV infection range from having to give up the cultivation of remote fields or cash crops, to the sale of assets to cover medical and funeral expenses. Typically, the effect of the HIV impact occurs when a migrant worker falls ill while away, uses his savings for medical treatment and then returns to the farm-household to be cared for and to die. By attacking able-bodied, active adolescents and adults, HIV/AIDS undermines the security of the farm-household through the direct loss of farm labour and of the time available for farm and household tasks. To cope with this, the farm-household has to reallocate both available labour and the time of other household members. Welfare of the farm-household is also threatened through unexpected costs of caring for the sick and the loss of remittances, which can lead to the sale of assets, animals or land. Documented evidence on the effects of HIV on agriculture by the Regional Network on HIV/AIDS, Rural Livelihoods and Food Security (RENEWAL) highlights the following:

- Asymmetrical sexual relations and mobility;
- Infection increases nutritional demands;
- Loss of agricultural knowledge resulting from the death of parents, creating the so-called ‘missing generation’;
- Poverty affects people’s ability to respond to the consequences of AIDS;
- Illness and death push households into deeper poverty, creating additional burdens;
- Community safety-nets become strained; information networks do not extend to the most seriously affected sectors;
- Commodity chains, institutions (Gillespie and Kadiyala 2005).

The role of farming systems and/or agricultural communities is also reviewed in ICRISAT’s studies on AFRICA (Alumira, Bantilan and Sihoma-Moyo 2005). A few findings are summarized below.

- *Vulnerability to HIV/AIDS*: Of the households under review, 65 per cent in Tsholotsho were HIV-AIDS infected and 58 per cent in Kezi. Women-headed families accounted for 46 per cent of households in Tsholotsho (where the mean number of resident household members was 6) and 45 per cent in Kezi (7). In all, 30 per cent of Tsholotsho households and 41 per cent of Kezi households had taken in at least one orphan.
- *Poverty*: Seventy per cent of the households in each study district were classified as poor, when poverty was assessed in terms of relative wealth, with cattle ownership as the main denominator. The five wealth categories were: the poor owned 0-4 head of cattle; the medium rich 5-10, and the rich or very rich owned over 11 head of cattle. Poverty was widespread.
- *Food production*: Both cereals and legumes were produced. Generic crops (maize, sorghum, millet, groundnuts, bambara nuts) were cultivated by most

households. Vulnerable households relied heavily on subsistence production for their livelihood.

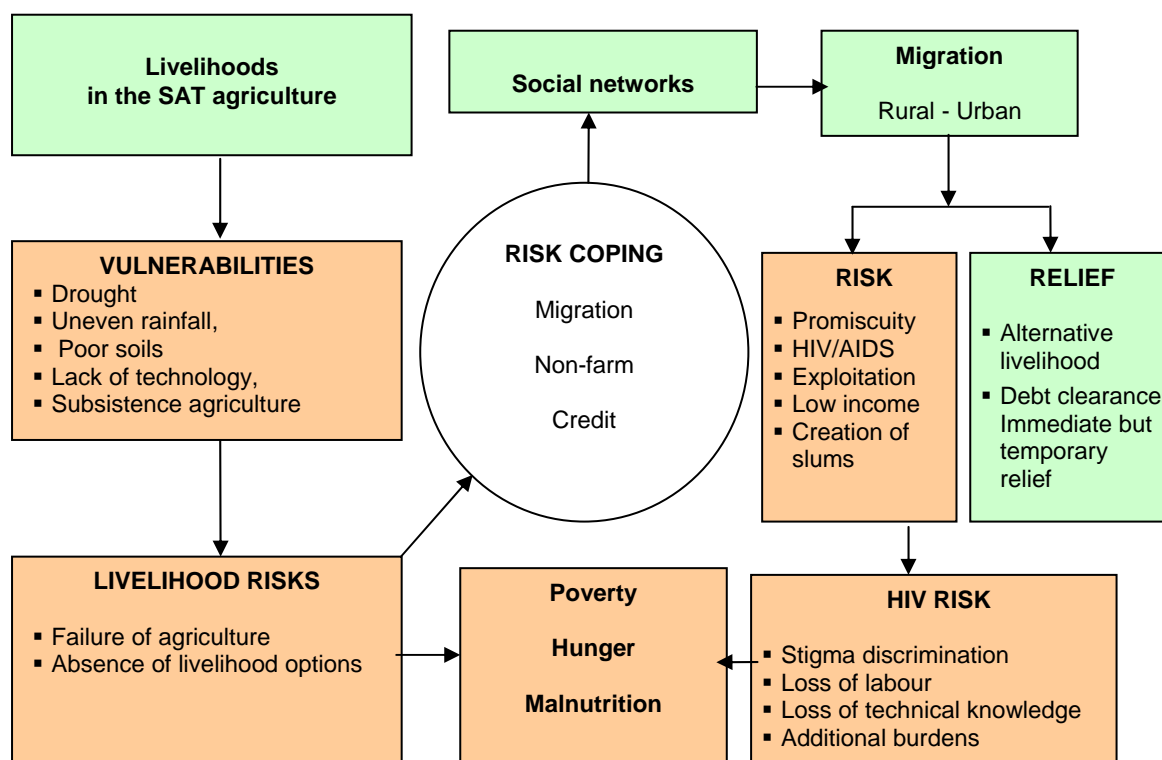
- *Livestock production:* HIV/AIDS-afflicted households tended to have less livestock than other households. Close to half of the HIV-infected households had no cattle. Smaller animals, mainly goats, sheep and chickens, followed a similar distribution. In Tsholotsho, 32 per cent of the households had no goats, 41 per cent owned a few goats (1-5) and 27 per cent owned more than six goats. These results show that targeted restocking for these households is essential.
- *Farm labour and draft power constraints:* The lack of draft power was a key constraint. Fifty-six per cent of the rich households in Tsholotsho and 78 per cent in Kezi owned at least two draft animals, while only 19 per cent of the poor in Tsholotsho owned at least two draft animals. Although most households owned ploughs, many were not functional as the paucity of cash income prevented repairs. The mean number of adults over the age of 14 years was used as a proxy for labour: the mean number of adults per household was three in Tsholotsho and four in Kezi, while it was three for children under 14 years in both villages. Human labour was constrained by household health status.
- *Disease prevalence:* There was a high incidence of illness in the communities, mainly HIV/AIDS-related opportunistic infections. In Tsholotsho, illnesses in order of importance were malaria (45 per cent), tuberculosis (26 per cent), herpes and rheumatism (6 per cent) while in Kezi, corresponding occurrences were malaria (21 per cent), tuberculosis (34 per cent), and herpes and rheumatism (26 per cent). Ill health constrained farm production.
- *Dependency ratios:* The dependency burden was assessed using dependency ratios as a proxy. The majority of vulnerable households (94 per cent in Tsholotsho and 86 per cent in Kezi) had up to three dependants per active adult and thus belonged to the moderate to high dependency categories. Dependency ratios were also calculated on the basis of gender (of the household head). Most female-headed households had high dependency ratios in both locations, while most male-headed households belonged to the moderate dependency category.

ICRISAT's comprehensive research in Sub-Saharan Africa offers the potential to learn from these generic lesson, which could be of great value in India as well in devising suitable development policy. A similar comprehensive strategy is needed for India. Even though national HIV infection levels in India are low compared to Africa, the country's vast population size translates even low national HIV prevalence into large numbers of infected people.

2.4 The risk to risk framework

In this context, the study explores the linkages between livelihood diversification and health, specifically with regard to the nature of risk behaviour pertaining to HIV infection, by attempting to identify who is most vulnerable, and why this is so? The study develops a theoretical framework (Figure 1) from existing studies to guide the research process.

Figure 2
The risk-to-risk framework



This broad framework was formulated from a review of the literature on semi-arid tropics, migration and HIV/AIDS in India and Africa. It encompasses the broad linkages in rural SAT, where the dominance of agriculture as the major livelihood option has decreased, and discusses the dynamic interplay between these components and their outcomes. In the rural semi-arid tropics of Andhra Pradesh, livelihood has predominantly been—and still is—based on rainfed agriculture. Over the last three decades, agriculture in SAT has been threatened by persistent drought. The semi-arid tropics are home to the poorest people on the Indian subcontinent (Rao et al. 2005). Despite efforts by national and international organizations and the adoption of scientific research to develop a grey to green revolution, India's SAT has been largely ignored. This has caused livelihood insecurity for the rural households living in these areas. Agricultural failure leads to a loss of livelihood for the farmers and labourers working in farming. This, in turn, leads to poverty and hunger in an already fragile zone. According Walker and Ryan (1990), Bantilan and Anupama (2002), Gandhi (2003), the major coping mechanism of the farming communities confronted by drought and absence of livelihoods is migration. Migration offers immediate relief and steady income, but not as a permanent solution, as it exposes the migrants to risks. Seasonal workers in India are not required to register in their destination locations; they are an unorganized sector, so they cannot claim benefits other than what has informally agreed with them. This paves the way for exploitation. In addition, migration intensifies the risk of contracting HIV/STIs (Gelmon et al. 2006).

The impacts of HIV infection on rural households are many: agriculture is particularly threatened by the pandemic, given the implications from diminished labour power on the ability of affected households, particularly the poor, to feed themselves. A large-

scale influx of the HIV epidemic might cause the already fragile environments to deteriorate further. Studies from Africa (which are comparable to India) highlight the strong linkages between HIV and migration. Studies examining this phenomena are lacking for the SAT and are urgently needed. The vast size of the SAT in India makes it difficult to examine the effects of HIV or the nature of HIV risk behaviour, as the majority of Indian states have larger populations than most African countries. So, as an exploratory attempt, this study will examine these broad linkages from a micro perspective with a case study of Doruk, one of the SAT villages in Andhra Pradesh. Some of the findings are presented here.

3 Methodology

Earlier, theorists have tried to find an explanation for the rapid spread of HIV/AIDS in (southern) Africa. For example, Hunt (1996) distinguishes between theories based on *biological explanations* and those based on *social explanations*. The first category emphasizes a biological determination of the HIV/AIDS epidemic, while the second category has a historical, materialist or cultural nature. Webb (1997) further distinguishes between different approaches within social epidemiology: the structuralist approach, which emphasizes the importance of structures or macro issues, as these economic and political processes (e.g., the debt crisis, poverty, urbanization and government policy) influence the AIDS epidemic (Webb 1997: 31). This approach places epidemiology in a historical, economical political context and has a strong focus on the power relations within society. According to the structuralist approach, individual human behaviour is partially determined by global economic and political structures that have an impact at the international and national levels, but also at the local level (Webb 1997; Lurie 2001). On the opposite spectrum is the *anthropological approach*, which examines the heterosexual spread of HIV from a bio-anthropological point of view, in which cultural variables are the main objects of study (Webb 1997: 29) and the focus is on sexuality and the psychology of individual (sexual) behaviour. It is in this context that some theorists refer to the promiscuity of African men and the tolerance of African societies towards multiple sexual partners.

The danger inherent in the structuralist and anthropological approaches, however, is, that both have the same deterministic nature. The former implies that in any given area with same structures, people develop similar behaviour patterns (for example, an individual migrating alone may be more promiscuous than the seasonal worker who migrates with his wife). The latter can easily lead to ethnocentrism and universalism that will over-simplify real life situations or deny the heterogeneity of societies. Moreover, the biased focus on cultural and psychological elements of society ignores the importance of political and economic structures and their impact on the spread of HIV/AIDS. Neither approach on its own is able to explain the local and regional diversity in sexual behaviour (Webb 1997: 30-2).

Such theoretical studies, however, are lacking in the context of the Indian SAT. From the African context (which is quite similar and comparable to the Indian SAT in terms of poverty and agroecological climate), it can be noted that the spread of HIV is not only determined by psychological factors, but also by sociological, economical, political and historical factors. Webb conceptualizes the social epidemiology of HIV as the study of the constantly changing interrelationship between culture, actions of the individual,

and sociopolitical factors. Thus the methodology for this study was formulated by exploring the interplay of the different factors that facilitate the spread of HIV and not merely by examining the numbers infected.

The objective of analysis in this paper was to understand the interaction between livelihood insecurities, HIV infection risk and migrant vulnerability. This paper is part of a larger study that attempts to find answer the following questions:

- What extent do the livelihood insecurities in the semi-arid tropics lead to migration?
- What are the risk behaviours of migrant workers in the context of livelihood insecurity?
- What are the implications of migration and risk behaviour nexus on rural households?

The migration and risk behaviour nexus will be presented in this paper.

Data

The study is based on fieldwork conducted in the case-study village of Dokur. Data were collected from two sources: primary hospital data and the voluntary counselling testing centre (VCTC) in Bhongir, Nalgonda. These were then analysed for a better understanding of who were most severely affected and what was the nature of their risk behaviour. The fieldwork was carried out in the Dokur village located in Mahbub Nagar district, which had a high incidence of migration as well as reported cases of HIV.

Area of study

Located in the heartland of the semi-arid Andhra Pradesh, Mahbub Nagar is the most backward district of the state. It has a population of 3.5 million, and is perennially plagued by drought, resulting in a high incidence of seasonal migration. Dokur village, in particular, has a high incidence of poverty-related mobility and a number of HIV/AIDS cases were observed earlier (Gandhi 2003). The presence of the Institute for Rural Health Studies (IRHS) in Dokur provided an additional advantage of studying health factors in the village. In 2003, the 'lab', as the villagers popularly called it, reported eight cases of HIV positive among the migrant workers. Given the increase in migration and the HIV cases being reported, Dokur was ideal for studying the dynamics involved within this context.

Sampling method in Dokur

Dokur was one of the villages included in the ICRISAT longitudinal datasets, known as the village level studies or VLS, and was studied during 1975 to 1989 and revisited in 2001. This led to Dokur's household census in 2001, which was updated by the authors, and a stratified random sample obtained from this population census. The stratification was based on the holding of land, transitory status of the people and gender.

Sample size covered 30 per cent of the total population of Dokur village. The village had 497 households, of which 149 were selected for the quantitative survey. These were further stratified according to their migration status and gender, so that 30 per cent from each household group—the migrating and non-migrating families—were identified for the sample.

In addition to the quantitative survey, 21 key-informant interviews were conducted, four focus groups plus two social mapping exercises carried out. These provided the basis for gathering qualitative data to complement the formal surveys.

Research tools

Quantitative and qualitative tools were used to elucidate data, namely: (i) formal surveys (13 modules broadly covering aspects of sociodemography, livelihoods, assets base, general/sexual health status and practices, HIV awareness, the impact of migration and the effect of external interventions); (ii) focus group discussions and interviews with key informants (covering wealth perception ranking, livelihood ranking, HIV/AIDS awareness, the impact of interventions, migration and risk behaviour); and (iii) social mapping.

Ethical problems in field research

Consent from the respondents (Bailey 1950; Brewer 2000) is considered to be an important aspect of conducting ethical research. Baring this in mind, prior to the discussions, interviews and questionnaire, the respondents were clearly advised of the reasons for the research. It was emphasized that the aim of the questionnaire was for research purposes only and that the information would on no account be shared with a third party. The research process was outlined and consent of the respondents was requested before proceeding to the questionnaire phase. Respondents were cooperative and answered patiently, although at times, the pre-interview explanations took as long as the actual process of the interview itself. ICRISAT had established rapport with the villagers of Dokur that had spanned for 30 years. However, during the course of the study, additional efforts were made to maintain that rapport. The research team organized a review camp, which was open to all village households, but targeting the poorest families in particular. This was done to ensure the villagers that it was a question of their health, and that they should answer honestly.

4 Results and discussion

The results of the hospital data provided an insight into rural livelihoods and HIV linkages in the SAT. The primary data from VCTC were analysed to determine the nature of the prevalence in the SAT areas and the types of risk behaviour people were exposed to. The results are presented here, followed by the observations from the Dokur case study.

4.1 Results from the analysis of VCTC data for Bhongir

Two sets of data were gathered from the VCTC in Bhongir: one set was from the case registry and the other constituted the ethnographic case study data for each HIV positive patient as recorded by the local HIV counsellor. To ensure confidentiality and protect the identities of the patients, no names were revealed, and only the batch identification numbers were utilized. The majority of the patients were from the rural region even though the area hospital was located in a semi-urban site. A large number of the patients were farmers, agricultural labourers and migrant workers, the wives/widows and children of migrants.

The VCTC case studies recorded by the counsellor presented a new dimension of rural livelihoods in the surrounding areas. In India, intimate relations are taboo, and the subject is not discussed in public, even less so in the rural areas. Discussing it in public would mean being shunned by society. However, a review of the VCTV case studies from the Bhongir Area Hospital changes one's perception of rural society; old assumptions fade, and new dimensions emerge. The cases under review all concerned HIV-1 reactive or HIV positive individuals. The counsellor at the centre registered the patients' quantitative data according to a guide for collecting ethnographic data. Questions were largely related to the patient's sexual behaviour, his knowledge of the epidemic and of the treatment procedures available. These were collated by the researcher and categorized according to social groups, sexual behaviour, perceptions and nutritional status and stigma. The aim of this pilot study was to understand the nature and prevalence of HIV in the SAT.

Sexual behaviour

Seasonal migrants: Migrants generally constituted those villagers who reported agriculture as their primary occupation, but who had been forced to migrate because of the difficulties of farming being able to provide them with a reliable source of livelihood. The group also included a few lorry drivers or tractor drivers and their spouses as well. The pattern of sexual networks among migrants was evident from the Bhongir VCTC cases. All of the HIV-1 reactive migrants had had regular/irregular partners outside their marriage; some had even had relations prior to their marriage (extramarital and premarital). Women were also actively involved in premarital and extramarital affairs but to a lesser degree than men. The infected women were mostly housewives or agricultural labourers; very few were actually involved as commercial sex workers (CSWs). It was mainly the men who transmitted the disease: all the infected men had been involved with at least two regular partners other than their wives. However, there were a few incidents in which the wife had been the one with extramarital affairs and had transmitted the disease to her husband despite warnings by the counsellor. There were also cases where men, who had tested positive, got married, not heeding the advice given by the counsellor to postpone the marriage. Soon their wives tested positive as well. They reported that this was done to avoid community stigma. Both men and women kept silence on their HIV status, letting the other suffer.

Non-migrating residents: In the case of non-migrating respondents, sexual partners had usually been their co-workers in the fields or neighbours. Most of the non-migrating but HIV infected people were agricultural labourers. Some were shopkeepers.

While some of the patients reported that they had had multiple intimate partners and had not used condoms, majority said that they had acquired the disease through shared needles. According to the counsellor, this was an attempt to disguise extramarital affairs, because of the social stigma and taboo related with HIV/AIDS. People felt more comfortable in declaring that they shared needles rather than confessing to extramarital relationships. Most of the infected women claimed that they had shared needles, which is interesting because in the rural areas of India, there are not many cases of users injecting drugs; these are primarily in urban markets or in states of Manipur and Assam.

Perceptions and misconceptions about HIV/AIDS

Most of VCTC patients were aware or had at least heard of the epidemic, and were also knowledgeable about its modes of transmission. There were very few people who

actually had not heard of HIV/AIDS, but some believed that it was punishment by the gods for a misdeed in their previous life. A few considered it to be sorcery or witchcraft. Some others said that it had been transmitted when they had cared for HIV/AIDS patients. A few women expressed fears that they might have contracted the disease, as they had been in close contact with infected relatives. Astrologers and ayurvedic practitioners were misleading the people by claiming, first, that the disease was a phase which would eventually fade away, and second, that it was curable. They doctored gullible patients with the 'Kerala medicine'.

Perceptions about condoms

Among the respondents who had been tested reactive, the use of condoms was almost nil for the following reasons:

- No knowledge of its usage;
- Their pleasure would suffer;
- Wives were suspicious of the behaviour of the husband each time he suggested a condom (i.e., she would ask: why do you want to use a condom? Have you had sex with another woman? Why are you afraid, etc.);
- The opportunity of a sexual partner could not always be planned ahead, as it happens by chance, and condoms were not available all the time;
- Social structure in India prevents the women from having a say with regard to the husband's sexual habits. Most wives were afraid to insist on a condom.
- Men did not care to use condom when intoxicated.

Nutritional status

Almost all of the HIV positive respondents were very poor and came from farming or agricultural backgrounds. According to counsellor records, they lived in dire poverty, unable to pay even the minimal fee of Rs 10/- for the HIV test, so the area hospital did the test free for them. They also lacked access to sufficient food, not to mention nutritious diets. In HIV-infected households, a sick member meant a push into deeper despair.

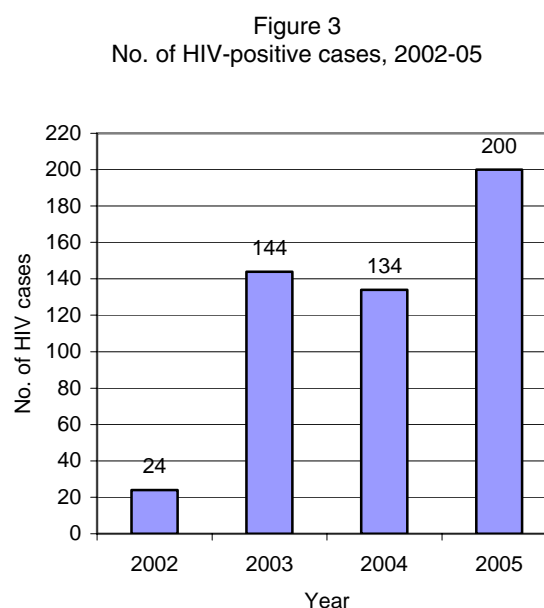
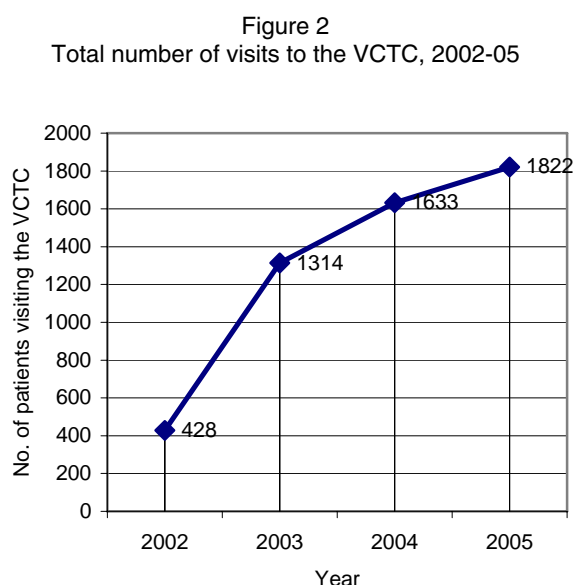
Stigma

It was evident from the respondents' answers that HIV/AIDS infected people were not well looked after. On the contrary, they were stigmatized and isolated from society—the husband throwing out his wife, or the wife having to move back to her parents' house after discovering spouse's infection. There were cases where the male had died and the woman fell prey to the wrath of the in-laws; her children being mistreated in school and on the street while she struggled to find a job. The phenomenon of the 'missing generation' observed in Africa is also emerging in rural India where entire families have been wiped out by HIV/AIDS, perhaps leaving a small child as sole survivor, to live with the grandparents, who may themselves be too old to take care of the themselves, let alone the child. This leads to further exploitation and loss of agricultural knowledge and labour power, which in turn affects the agriculture base of that particular area.

The following explores the HIV issue further, i.e., the number of people visiting the centre, social groups of the patients and the types of risk behaviour, as analysed from the VCTC quantitative register. During 2002, there had been 428 visitors to the centre,

but this more than tripled in the following years (Figure 2). Among these visitors, the total number of HIV reactive cases for the entire year of 2002 was 25, but had gradually and consistently increased to 200 reactive patients as of September of 2005 (Figure 3).

Even though the VCTC was in a peri-urban locality, visitors were predominantly from agricultural labour population (Table 1). This corresponds to the findings of the NACO sentinel surveillance which observes that the epidemic spreads faster in the rural areas. As detailed in Table 3, the most common reason for the VCTC visit was multiple intimate partners, followed closely by shared needles. However, as explained by the counsellor, the report of shared needles was an attempt by disguise the reality of multiple sex partners, and was considered to be less demanding to reputation.



Source: Computed by authors based on data collected during field research.

Table 1
Patients visiting the VCTC by occupational groups, 2002-05

	2002				2003			
	Male	Female	Reactive male	Reactive female	Male	Female	Reactive male	Reactive female
Migrant labourers	42	22	29	0	20	15	21	14
Agriculture workers	24	41	57	57	42	30	46	42
Businesses	24	7	14	0	10	1	9	0
Dependents	0	0	0	0	8	2	9	2
Housewives	0	29	0	29	0	51	0	38
Students	9	0	0	14	20	2	15	4
	2004				2005			
	Male	Female	Reactive male	Reactive female	Male	Female	Reactive male	Reactive female
Agriculture	37	13	28	16	27	18	24	9
Migrant labourers	36	31	61	37	33	30	47	47
Businesses	0	0	0	0	12	0	8	3
Dependents	0	0	0	0	8	2	16	5
Housewives	0	55	0	40	0	46	0	27
Students	28	2	11	7				

Source: Compiled by authors.

Table 2
Risk behaviour of visitors to VCTC, 2002-05

Type of risk behaviour	Percentage (per year)			
	2002	2003	2004	2005
Multiple sex partners	83	50	41	49
Sharing needles	14	32	29	10
Child of HIV infected parents	0	8	9	12
Blood transfusion	0	7	11	9
Others	3	3	10	20

Source: Compiled by authors.

From the VCTC study in Bhongir, it was possible to get an understanding of the prevalence of HIV among the rural populations. In addition, it was also possible to gain insights on the nature of risk behaviour. However, developments at the village level could be observed only through an in-depth analysis aimed at bridging the gaps between rural livelihoods and HIV linkages. The results from the primary data collected in connection with the case study for the Dokur village provide additional information on these dynamics.

4.2 Dokur village case study

Evolution of livelihoods, risks and coping strategies

Two decades ago, the major livelihood in Dokur was agriculture and related farm labour (Jodha, Askoo and Ryan 1977). Based on an examination of the 1975 ICRISAT panel dataset, these authors argue that small farm-households were likely to have more than one source of income. They suggest that where landholdings were small, households were more vulnerable to the exigencies of drought and unreliable yields. Diversification of resource use, particularly family labour use, was one way to supplement risky returns from land. In terms of operational landholdings, households in all landholding groups, including the landless, diversified between 1975 and 2001. But beyond this broad trend, it is difficult to discern any other pattern with respect to levels of diversification. If Jodha, Askoo and Ryan are correct in their observation that diversification is a response to risk, then it becomes apparent from the 2001 census that all households—and not just small farmholdings—faced risks in agriculture and diversified in order to reduce their vulnerability. Table 3, showing the difference in livelihoods in 1975 and 2001, indicates that migration has gained importance as a major livelihood option in Dokur. As Table 4 indicates, the migration trend over the next five years did not decrease, but rather to the contrary, increased from 36 per cent of the total households having at least one migrating member in 2001 to 42 per cent in 2006. Usually, the migrating member was the head of the household and his or her spouse.

During the focus group discussions and key-informant interviews, the study concentrated on elucidating people's own perception of how livelihoods had changed and the reason for the change. The responses are grouped in Table 5.

The villagers considered migration to be a livelihood option easily available to all. Given the semi-arid climate of Dokur, livelihoods had been dominated by the effects of persistent drought. Migration became a regular alternative strategy two decades ago with the onset of successive drought seasons. However, people had migrated as early as 30 years ago, particularly lorry drivers, those with contract jobs in the city, or army

personnel. Large-scale organized migration began in Dokur only during the last 15 years. As Figure 5 indicates, migration increased considerably in the post-1993 period and has continued to expand since then. This signifies the absence of livelihood options in the village or opportunities for better income offered by migration. Drought began to affect Dokur in the late 1980s, but the village managed to survive because of its water tanks and reservoir. In the early 1990s, the tanks dried up, and this was followed by a decade of drought, leading to a sharp increase in migration, particularly among the landless labour class. Exit from the area continued to rise mainly due to the push factors within the village. The recent trend, however, has been a combination of both pull and push factors, as was observed in this study.

Table 3
Livelihood diversification in Dokur

	2001	1975
Agricultural income		
Net crop income	10.40	46.1
Net livestock income	9.25	2.0
Farm/casual labour	6.52	46.3
Regular farm worker	1.21	-
Rental	-	2.2
Total agricultural income	27.38	96.6
Non-farm income		
Non-farm wages	1.33	-
Net migration labour	25.34	-
Remittances	0.20	-
Salaried jobs	4.75	-
Caste occupation	6.15	-
Business/trade and handicrafts	7.58	1.10
Others	27.27	2.30
Total non-farm income	72.62	3.40

Source: Deb et al. (2002) for the year 2001; Jodha, Asokan and Ryan (1977) for the year 1975.

Table 4
Migration in Dokur, 2001 and 2006

	Migrating households		Non-migrating households		Total households
	No.	%	No.	%	No.
Census 2001	185	36	330	64	515*
Census 2006	208	42	289	58	497

Note: * The total number of households in the village dropped as 14 families moved permanently to Hyderabad, and 4 households consisted of elderly people who had passed away.

Source: Compiled by the authors.

Table 5
People's perception of how livelihood options have changed in their village

Occupations two decades ago	Present occupations
Agriculture	Migration
Farm labour	Agriculture
Livestock	Business (shops, real estate, labour contracts, etc.)
Caste occupation	Farm labour
Migration	Livestock
Businesses (shops, etc.)	Caste occupation

Source: Compiled by the authors.

Figure 5
First time migration of respondents

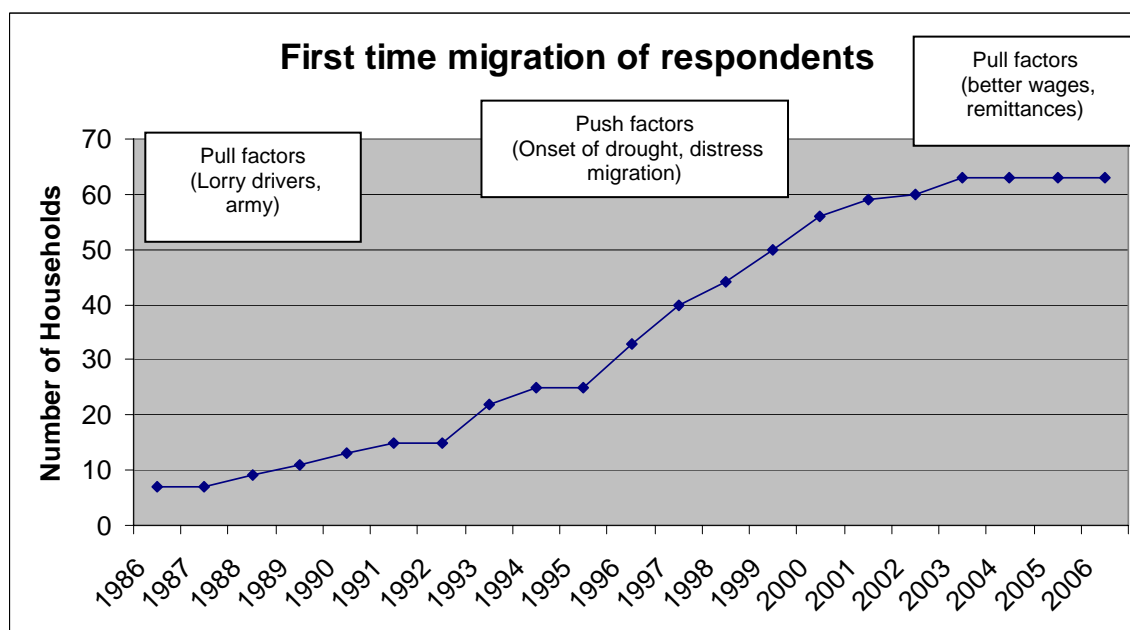


Figure 6
Reasons for migrating the first time

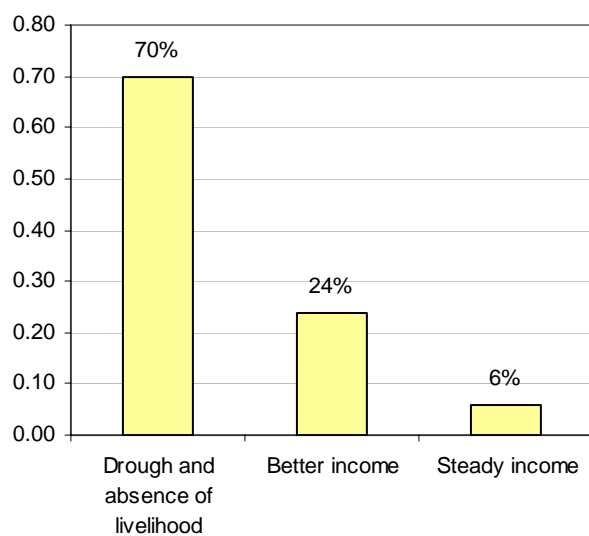


Figure 7
Reasons for migrating the second time, 2005-06

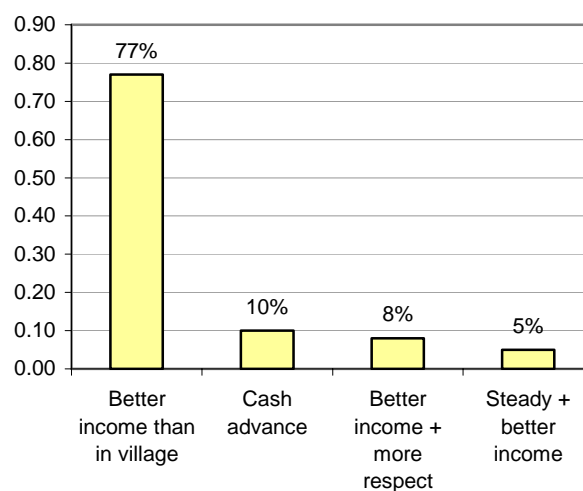


Table 6
Reasons for migration (based on focus group discussions)

Men	Women
<ul style="list-style-type: none"> ▪ Better income ▪ Temporary escape from money lenders ▪ Future investments ▪ More respect 	<ul style="list-style-type: none"> ▪ Equal income ▪ More respect ▪ Remittances

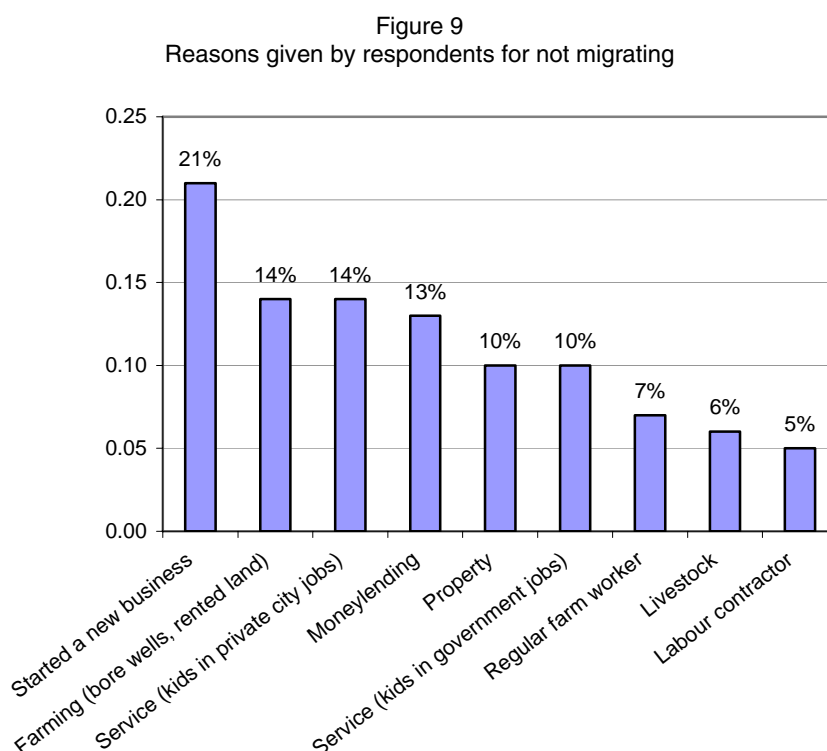
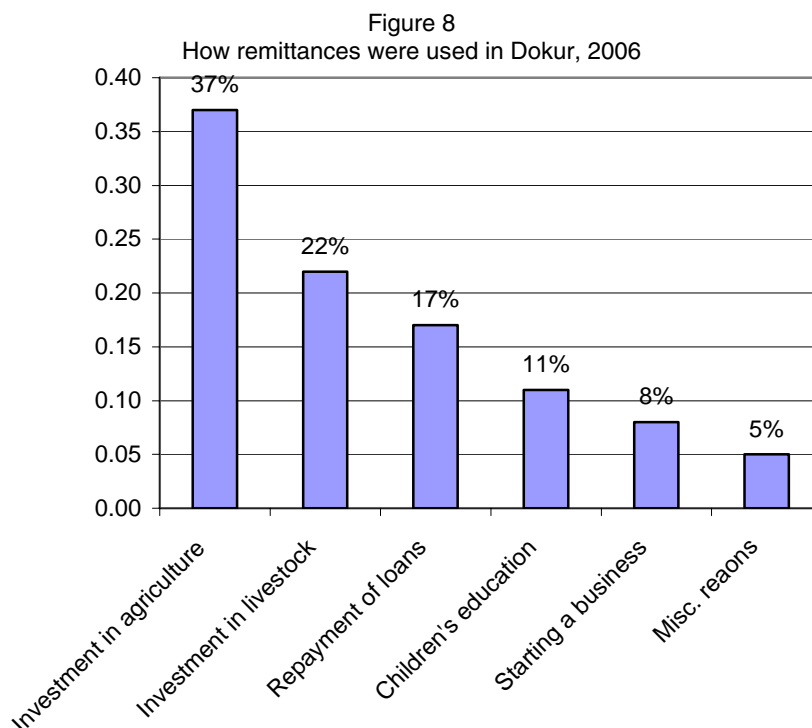
According to the villagers, reliance on agriculture has decreased over the past decades because the continual scarcity of rainwater made agriculture impractical. The demand for caste occupations dropped, the cost of maintaining livestock increased and there was a paucity of capital available for business. In these circumstances, the only realistic option was migration to the city for work. In order to understand the push or pull factors behind the move, respondents were asked to relate the reasons why they had originally migrated and why they were now leaving. As Figure 6 shows, 70 per cent of the respondents believed that the drought and absence of livelihood had been the main reason for their initial departure from the village. In contrast, in 2005-06, 77 per cent stated that they had moved because of better income opportunities in the migration destinations, while 8 per cent felt that in addition to the improvement in income, they also had more respect in the village (Figure 7).

In the Indian society, caste determines the relations within the power structure, but these can be weakened through class. As an individual's wealth increases, most of the issues or problems arising from his or her caste cease to exist or become mitigated. The continuing expansion of urban centres with the construction of new complexes, apartments and high-rise buildings by the private sector as well as of infrastructure such as roads by the public sector ensures the steady availability of urban jobs. This also means steady money. Furthermore, 10 per cent of the respondents had migrated because of the cash advance facility in the rural area.

Discussions with the focus group revealed interesting insights as to why people migrated: the responses are summarized in Table 6. According to the men, better income opportunities were the main incentive for migration while for the women, it was equal income earning: e.g., in the village, male farm labourers were paid Rs 65-80 whereas the rate for a female was Rs 35-50. At migration locations, both men and women earned equal wages of Rs 9,000-10,000.

The qualitative research tools also gave an insight on how migration occurred. Discussions with the key informants, many of whom were labour contractors, revealed that in the first few years of the severe drought, upper caste men of the village went to the cities to seek work from their urban relatives or friends. During these visits, they met civil contractors involved in government projects, and for a commission started to recruit labourers from their village. These social networks both within and beyond the village helped to trigger the migration process, which expanded from a few families in the initial stages to a large-scale phenomenon.

The respondents ranked migration as the preferred occupation at present. However, they indicated that they would eventually like to return to agriculture. As Figure 8 shows, 37 per cent of the migrant respondents had invested their remittances in agriculture, either buying or leasing land, digging bore wells, etc. Land has traditionally been a source of status for villagers in India. According to discussions with the focus group and key informants, despite the paucity of rain, it was the ambition of every labourer to own land. Even if they migrated regularly, they would buy land in the hope that it would be used later at least by their children, if not themselves. Land, in lieu of cash, was also given as a dowry at the marriage of a migrant's daughter.



During discussions on the various uses of remittances, several interesting observations emerged. For example, according to the migrant respondents, 22 per cent had used their remittances for investing in livestock. Traditionally, very few households had owned livestock because Dokur was unsuitable for this purpose. However, migrants were now buying livestock for dairy and re-sale purposes (meat) to the neighbouring villages. Loan repayment (17 per cent) and children's education (11 per cent) were the next priorities. Eight per cent of the respondents had started new businesses; these ranged from a tea stall or a wineshop to chicken and mutton centres. Although migration was

initially triggered as a response to drought which also generated ‘distress migrants’, it offered certain benefits as well. The use of remittances is a clear testimony to how resourceful these households had become. If it were not for migration, these people probably would have remained as casual labourers and landless peasants for their entire lifetime. Now, even though the changes were not manifold, there was opportunity through labour mobility for these villagers to achieve higher socioeconomic standing. While it was apparent that migration was increasingly a becoming major livelihood option in Dokur, it is also important to note that the majority of villagers did not migrate. The non-migrating respondents were asked to explain how they had coped with drought, and to give their reasons for not leaving. Figure 9 summarizes their responses.

The majority of non-migrants were from forward communities and landholding backward communities, which traditionally have been resource rich and powerful. So even during extreme drought, these villagers were able to cope without being forced to leave their homes. Twenty-one per cent of the non-migrating respondents said that during drought periods, they had started new businesses. It is interesting to note that the ‘new business’ was usually related to migration, setting up real-estate operations by buying plots in the nearby district headquarters, construction of housing with migrant labourers, or shops selling iron and other building materials. This enabled the non-migrating people to make money, and at the same time, to maintain their hold over lower-caste villagers.

The non-migrating villagers also mentioned moneylending and remittances from their children who were employed in government or private company jobs in Mahbub Nagar, a nearby district, or in Hyderabad. Informal moneylending, particularly by the upper caste landlords, is a common practice in almost all villages in India, and Dokur was no exception. Moneylenders charged a 3 per cent interest rate compared to 1 per cent by the formal banking institutions. Despite this, village moneylenders were patronized, because they were members of the community and could be relied upon for a loan in the case of an emergency.

Social groups

The results so far have shown that migration was indeed the most sought after alternative livelihood strategy. It is also true that while some individuals migrated to overcome unfavourable conditions, others did not. At this point it is important to understand who the migrating villagers were and who the non-migrating villagers were, and to identify the socioeconomic conditions that caused this distinction.

The caste and land-wise distribution of the migrant and non-migrating households can be determined from the 2006 census (Table 7). Overall, the breakdown of village households was as follows: the landless constituted 26 per cent; small landholdings 38.0 per cent; medium and large households 19.9 per cent and 16.1 per cent, respectively. It is interesting to note that 96 per cent of the households among the scheduled caste migrated while a mere 4 per cent stayed behind. Caste has played an important role in the migrating process, because traditionally Dokur has been under the control of the upper caste groups and the relatively powerful backward caste groups.

This observation was confirmed during the focus group discussions and key-informant interviews: the non-migrating villagers were usually the upper caste members or their friends. It was the poorest of the poor who migrated: the landed and higher caste groups had been able to diversify their livelihood options within the village.

Table 7
Migrants and non-migrants, classified by caste and land

	Migrating HH			Non-migrating HH			Grand total	% among total HH
	Households	% of total HH in Dokur	% among same social group	Households	% of total HH in Dokur	% among same social group		
Landless households								
Scheduled caste	36	7.2	92.3	3	0.6	7.7	39	7.8
Backward caste	37	7.4	43.0	49	9.9	57.0	86	17.3
Forward caste	0	0.0	0.0	4	0.8	100.0	4	0.8
Total landless HH	73	14.7	56.6	56	11.3	43.4	129	26.0
Small households								
Scheduled caste	37	7.4	74.0	13	2.6	26.0	50	10.1
Backward caste	62	12.5	56.9	47	9.5	43.1	109	21.9
Forward caste	0	0.0	0.0	30	6.0	100.0	30	6.0
Total small HH	99	19.9	52.4	90	18.1	47.6	189	38.0
Medium households								
Scheduled caste	5	1.0	83.3	1	0.2	16.7	6	1.2
Backward caste	26	5.2	49.1	27	5.4	50.9	53	10.7
Forward caste	1	0.2	2.5	39	7.8	97.5	40	8.0
Total medium HH	32	6.4	32.3	67	13.5	67.7	99	19.9
Large households								
Scheduled caste	0	0.0	0.0	1	0.2	100.0	1	0.2
Backward caste	1	0.2	3.4	28	5.6	96.6	29	5.8
Forward caste	3	0.6	6.0	47	9.5	94.0	50	10.1
Total large HH	4	0.8	5.0	76	15.3	95.0	80	16.1
Total households	208	41.9	41.9	289	58.1	58.1	497	100.0

Notes: Castes or communities are government classifications based on religious stratification.

Landless farmer = ownership of 0.2 ha or less of land;

Small landholding farmer = ownership of 0.2-0.9 ha of land;

Medium landholding farmer = ownership of 0.9-2.1 ha of land; and

Large landholding farmer = ownership of more than 2.1 ha of land.

Educational status of migrants

The role of education in enhancing a person's bargaining power and boosting his self-confidence has been well documented in both sociology and psychology studies. Given the fact that it was the ultra-poor who migrated and that they had no assets, it is important to examine their educational status, as education is necessity for life in urban centres, and even for bargaining power. As has been recorded by many sociologists, three characteristics account for the respect an individual is awarded in rural India: first caste, then wealth and finally education. As Table 8 shows, 60.3 per cent of migrant respondents with no schooling, 17.3 per cent of those with primary education, and 3.2 per cent with high school level were employed as casual labourers.

Among the respondents who were employed as labour supervisors, 11 per cent had primary schooling and 2.3 per cent had middle-school education. All of these respondents were from the SC and BC communities. Labour contractors accounted for 4.2 per cent of the respondents, all of whom were from the FC community (Reddy). Education offered the migrants the opportunity to move up the social ladder in terms of acquiring a relatively better job, as confirmed by the observation that none of the non-educated respondents were labour supervisors. The key informants from the SC

community reported that they had not had the time to study, as they were always working, and that their parents had needed their help at a very early age to help the impoverished household and to repay incurred debts. Education—or the lack thereof—had a direct impact on the occupation or position that they landed. In view of the observation from this study that migrants without education worked in the migration destinations as casual labour at considerable lower wages than a labour supervisor, we need to examine the status of education of their children.

Several education schemes are provided in the rural areas, such as the *Sarva Siksha Abhiyan*, and the midday meal programme, which was available for the village children. Village data indicated that 78 per cent of the migrants' children were not in school: 22 per cent were. This is based on the migrants with school-aged children: unmarried migrant respondents or those with no or infant-aged children were excluded.

The study indicated that despite the fact that migration provided an immediate alternative to the no-employment situation of the home district, one of its negative aspects was the long-term deterrent to livelihood enhancement. This leads to long-term implications—children remaining trapped in poverty just as their parents had been, being left out from various development schemes with no hope for alleviating deep-rooted poverty. Education, among other benefits, is known to give confidence to be outspoken and to encourage resourcefulness. One of the conclusions from the participant-observation technique was that the respondents with some schooling, even if only lower level education, were much more open to discussion or questions compared to the non-educated villagers, who were shy, reserved and highly insecure in dealing with new people or situations. Among the respondents with school-aged children not attending school, 49 per cent reported that children accompanying parents had been the main reason for lack of attendance, and 16 per cent cited the lack of interest. A typical situation in many destination communities was one of parents working, but children playing in the surroundings.

Given that the interviews had been designed to support an ethnographic-type study, questions relating to the reasons as to why their children migrated were added ready at the time of data collection. Fifty-eight per cent of the respondents whose offspring migrated with them reported that the children also worked for extra income, while 42 per cent said that their children had accompanied them because there was no-one to take care of them in the village. From the focus group discussions and key-informant interviews, it was learned that the children carried stones and cement, and were paid as an advance Rs 3,000 if the child was 12 years or younger, and Rs 6,000 if younger than 18. This was justified on the basis that the children could not do work other than

Table 8
Educational status of migrant respondents and their occupations

Education status of respondent (%) (n =63)	Type of occupation		
	Labour contractor	Labour supervisor	Casual labourer
No schooling	0		60.4
Primary education	0	11.1	17.3
Middle school education	0	3.2	3.2
High school education and above	4.8		

carrying loads or walking on cement to smoothen it. This raises the issue of child labour and exploitation of children. According to the focus group, some of the parents were not interested in sending their offspring to school, because they felt it was a waste of time, as the children would eventually end up being labourers and if they learned the trade early, there might at least be a chance of becoming a supervisor or contractor.

Moving on from the sociodemography aspect of the study, the following section discusses the link between migration and health and is based on data collected from both the quantitative and qualitative research.

Migration, health and risk behaviour

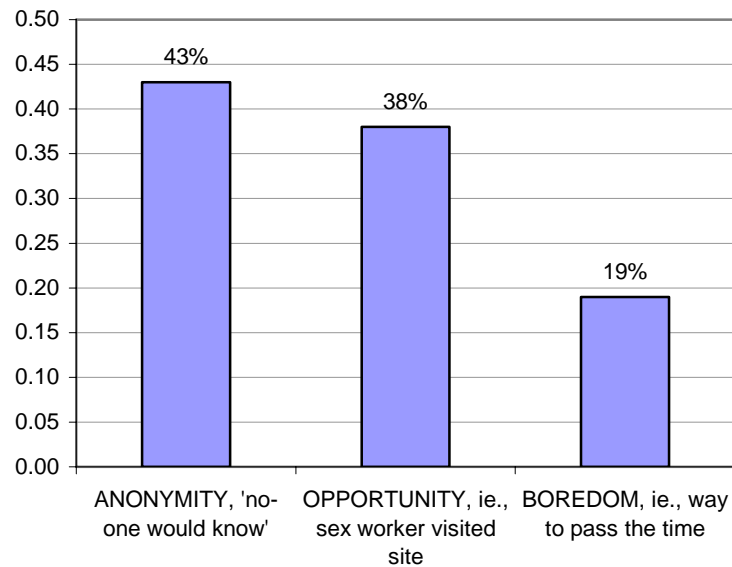
The Dokur village is classified as a ‘high risk’ group by national and international organizations and civil societies. Therefore it is imperative to have an understanding of risk behaviour and the health status of migrant and non-migrating villagers. Table 9 summarizes the risk behaviour of the migrant and non-migrant respondents. Of the total migrant households, 41 per cent of the married and 3 per cent of the unmarried respondents had visited a commercial sex worker (CSW) at the migration destination. Another 10 per cent of the married migrants had had intimate relations with both CSWs and non-CSW partners; 3 per cent had engaged in relations with non-CSW partners.

These findings contradict earlier studies (UNAIDS 2001) which assumed that lonely married men migrating alone or single migrants were the ones to engage in risky behaviour. In the case of Dokur, the migrants travelled as couples, unless the wife was pregnant or sick. The non-migrant respondents exhibited less risky sexual behaviour, although 10 per cent of the married non-migrant respondents reported having sexual liaisons with non-CSW partners and 3 per cent with a CSW. According to one key informant who was the resident paramedic at IRHS mentioned that it was mostly the migrants who came for sexually-related check-ups, but that there were a lot of non-migrants as well. He added that the non-migrants were normally upper caste men who kept the traditional concubines as a status symbol. This group was also more aware of HIV and related risks, and used the condoms distributed by ASHA, a project of the Andhra Pradesh government. Figure 10 summarizes the reasons given by the migrant respondents for indulging in risk behaviour.

Table 9
Types of risk behaviour of migrant and non-migrating respondents

	Married	Unmarried	Total
	Migrants (%) (n = 63)		
Engaged in relations with:			
Commercial sex worker	41	3	44
Non-CSW partner other than spouse	3	0	3
No visits to CSW or non-CSW	40	3	43
Visits to both CSW and non-CSW other than spouse	10	0	10
Total	94	6	100
	Non-migrating respondents (%) (n = 86)		
Engaged in relations with:			
Commercial sex worker	4	3	7
Non-CSW partner other than spouse	10	0	10
No visits to or non-CSW	73	7	80
Visits to both CSW and non-CSW other than spouse	3	0	3
Total	90	10	100

Figure 10
Reasons for risky behaviour in migration destinations



Source: Computed by authors.

Social norms or cultural taboos of the village prohibited people from indulging in acts that they might otherwise have found tempting, but given the opportunity, they resorted to temptation. While epidemiologists argue that a person indulges in risk behaviour—or for that matter, does not indulge—will do so irrespective of the surroundings. The Dokur case study finds contrary evidence. People are sociable creatures, and they adapt to different circumstances. Of the migrants exhibiting risk behaviour, 68 per cent reported that they had not been involved in promiscuous behaviour before migration. The long working hours without rest in the heat and dust added to the stress of the migrants, and as one of the key informants noted, a sexual relation was the cheapest entertainment available to them in the migration destination. Work sites attracted workers from numerous villages, making each a stranger, and when a CSW visited the location, it was much easier to resort to high-risk behaviour than would have been the case in the home village.

One of the major strategies used to combat HIV/AIDS in India has been to increase awareness among high-risk groups as well as the general population. This includes educating the people with regard to their awareness of HIV, including knowledge of the mode of transmitting and/or preventing the disease. Among the migrant respondents, 56 per cent were knowledgeable, 25 per cent had never heard of HIV, and 19 per cent, although aware of HIV, were not sure of how it spread, was transmitted or prevented.

For those who reported relations with a CSW or partners other than one's spouse, condoms were not used in 76 per cent of the cases, nor had they used condoms with their spouses either. Even in the case of respondents knowledgeable about HIV/AIDS, condom use was limited. According to comments from members of the focus group, migrant life, or even rural life for that matter, was very different from the urban centres where people could plan their sexual relations, and condoms could be easily purchased at pharmacies. In villages, and particularly in the migration sites, 'deals' are done very quickly; opportunities were unexpected or spurt-of-the moment, and condoms not available. This attitude reflects high-risk behaviour on the part of migrant workers, as

they endangered not only their own lives but those of their spouses as well. This was evident also in the Dokur village. In 2003, the IRHS reported eight HIV cases, referring them to the local VCTC in Mahbub Nagar. At the time of writing, there were 55 HIV-positive individuals in Dokur, 49 of whom were migrants. If this rate continues, Dokur will soon have to confront the effects of the poverty/HIV nexus that has plagued southern Africa, and this phenomenon will spread faster to other nearby towns and villages.

The quantitative and qualitative data on Dokur showed that risky sexual behaviour was high among migrants, and that the majority of these people were not aware of HIV/AIDS. The local doctor at the primary health centre in Devarakadra Mandal pointed out that migrants generally were absent from the village when AIDS prevention officials visited, and even if they had been present, they were not interested in the programmes, as they preferred to rest, call on relatives or engage in social events during their brief visit home. This was not surprising as the respondents spend nine months working outside the village.

Implications of risk behaviour

HIV risk behaviour compromises the health of the migrant, and weakens his work efforts, particularly with respect to hard physical labour. Table 10 (Panel A) gives a comparison of the general and sexual health status of migrants and non-migrants. Compared to non-migrating villagers, the health of the migrants was relatively poor, with 36 per cent of the respondents complaining of ill-health and of considerable difficulties in handling daily tasks, especially at the migration sites.

The majority of the ill-health migrants were from SC or BC communities. Only two households from FC community reported poor health, and this was due to the fact that they had suffered a recent accident. The health of the migrant was important, and assumed considerable significance because a lumpsum advance payment of Rs 9,000 is made between contractor and worker when the migrant was recruited. This implied a work contract for nine months with the contractor, but were the migrant to become sick and unable to work, this amount becomes a debt incurred by the migrant and he/she would have to work extra days to compensate for those lost due to illness. This means a loss in pay for sick days plus costs for medicine and treatment of the disease. The IRHS reported that the migrants were mostly diagnosed with allergies, injuries, infection in their feet, as well as a high rate of sex-related illnesses.

Table 10
Health status of the respondents

	Migrants, % (n = 63)	Non-migrants, % (n = 86)
Panel A: General health status		
Very good: able to do daily tasks easily	12	48
Good: generally able to do daily tasks	44	38
Poor: substantial problems with daily tasks	36	11
Very poor: unable to do any tasks	8	3
Panel B: Sexual health status		
Suffering from sexual health related illness	29	11
Recovering from sexual health related illness	17	2
Never had problems with sexual health	54	71
Declined to comment	2	16

Panel B of Table 10 summarizes the status of migrants and non-migrants with regard to their sexual health: 29 per cent of the migrants suffered from sexually-related illnesses (gonorrhoea and syphilis being the common illnesses in Dokur). No sexual health problems were reported by 54 per cent of the migrants and 71 per cent of the non-migrating villagers. While 2 per cent and 16 per cent of migrants and non-migrants, respectively, declined to comment on their sex-related illnesses, 29 per cent of the migrants confirmed being infected and another 17 per cent were reportedly recovering from similar problems. Eleven per cent of non-migrants said that they were recovering from illness related to sexual health. With regard to both general and sexual health, the migrants were the ones most seriously affected.

The reasons are manifold; as the focus groups revealed, seasonal workers lacked access to health care at the migration destination, because they were no permanent residents. This was particularly true for road construction gangs when their campsite would be at the mid-point of the connecting roads, and as they finished in one area, they moved to the next. Only when their work was concentrated within the cities did they have access to healthcare. For non-migrant villagers, there was the clinic within Dokur for emergencies, the Mandal Primary Health care centre was a mere four kilometres away and the district General Hospital half an hour bus-ride from Dokur village.

Implications: from livelihood risk to HIV risk

As was observed in Dokur, migration is the response to livelihood risks and, in turn, paves the way for HIV risk. The issue of labour migration has two sides. On the one hand, it brings prosperity, enabling the purchase of land, debts to be cleared, bore wells to be dug, helping the individual in general to move up the social ladder. Transitory work, on the other hand, exposes the migrant to high-risk practices because of the lack of awareness or education, and makes rural households vulnerable to further livelihood deterioration. Extensive review and analysis of the empirical data helped to gain insights on the prevalence of HIV in the semi-arid tropics and the nature of risk behaviour. This can be traced back to the conceptual framework, confirming that livelihood risk translates into health risk with implications for the security of livelihood.

The structural link between the farm-household and the outside world, established through the migratory movement of household members, creates the channel for the flow of both cash and HIV. While migration fulfils the household's income needs, it can also cause the destruction of the household if it introduces HIV. This is cyclical phenomenon (Figure 14) of the *risk to risk*, where the livelihood risk leads to the HIV risk and the HIV risk leads to a further livelihood risk, and so the cycle continues. If left unchecked, it will not be long before the SAT of India begins to exhibit similar effects as identified in Africa and other developing nations. The study adds new dimension to the framework wherein the movement of migrants is not always a push factor caused by the absence of livelihoods as it was seen in Dokur. Migration in Dokur developed from being a risk response to becoming a regular way of life. The comparison of the 2001 and 2006 censuses shows that permanent migration has been steadily increasing, taking on proportions that can transfer rural poverty into urban poverty. This calls for a multisectoral, targeted approach for tackling the issue before it is too late.

5 Conclusions and future direction

The purpose of this study was to understand the linkage between livelihoods, migration and HIV, and to examine these broad connections in a micro perspective. In examining this process, the study confirmed the link between rural vulnerabilities which is often the effect of being 'traditionally poor', or rather, in the name of caste, being 'born to be poor'. This means great disadvantages in all aspects of wellbeing: not owning assets, and not having access to education, which even affects migration as a coping mechanism with regard to the type of job available to the transitory worker. The wellbeing of individuals in a community is a good general indicator of human development. Precisely, in an agrarian community such as the Indian SAT, the state of health at the individual level cumulatively determines the health (or wellbeing) of the community. This in turn reflects the wellbeing of the state or nation. As is shown by the evidence, there are direct benefits from migration such as provision of income, but it is also a channel for the spread of the HIV epidemic in the SAT, causing a further deterioration of livelihoods and leading to household insecurity and social economic imbalances.

The case study, the review of literature and the attendant secondary studies have suggested that a linkage exists between livelihood insecurity, migration and risk behaviour in the SAT. The results presented in this paper are the insights from a preliminary analysis. But further research is needed to understand the HIV-infected households in order to determine how these cope with the added burden of medicinal costs and loss of labour arising from the illness. Research so far has focused on the prevalence of HIV/AIDS in the SAT of Andhra Pradesh and the type of risk behaviour; understanding the coping mechanism of households with HIV-infected members could provide a holistic picture, and should be the direction of future research. From hitherto analysis and review, it is obvious that migrants lack voice and because of their transitory lifestyle, are often excluded from government HIV programmes or interventions. This calls for an amendment to the intervention strategies, be it on HIV awareness or employment guarantee schemes so as to explicitly include migrant populations. Since migration is no longer just a risk-response mechanism but has become a way of life, policymakers should develop a multisectoral, well-informed intervention strategy at the village level if the goal is to alleviate poverty and achieve sustainable development at the grassroots level.

Acronyms

BC	backward caste (the lower or mid-level group in the Hindu caste system of social stratification)
CSW	commercial sex worker
FC	forward caste (the highest level group in the Hindu caste system)
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IIT	Indian Institute of Technology
IRHS	Institute of Rural Health Studies
PLWHA	people living with HIV/AIDS
PHC	primary health centre
RENEWAL	Regional Network on HIV/AIDS, Rural Livelihoods and Food Security
SC	scheduled caste (formerly known as untouchables; the lowest level in the Hindu caste system)
VCTC	voluntary counselling-testing centre
VLS	village level studies within the ICRISAT

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